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Boston Edison Company

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Via Hand Delivery

February 22, 2005

Mary L. Cottrell, Secretary
Commonwealth of Massachusetts
Department of Telecommunications and Energy
One South Station, 2nd Floor
Boston, MA 02110

Re: Boston Edison Company d/b/a NSTAR Electric, D.T.E. 04-71

Dear Secretary Cottrell:

Enclosed for filing in the above-referenced proceeding are 5 copies of the Pre-Filed Testimony of Boston Edison Company witness Peter A. Valberg, Ph.D.

If you have any questions or require additional information, please do not hesitate to contact me.

Very truly yours,

A handwritten signature in black ink, appearing to read "Mary E. Grover" followed by a stylized flourish or initials.

Mary E. Grover
Assistant General Counsel

Enclosures

cc: Denise L. Desautels, Hearing Officer
Eric J. Krathwohl, Esq.
Matthew Goldberg, Esq.
David Rosenzweig, Esq.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS & ENERGY


Boston Edison Company)
_____))
_____)

D.T.E. 04-71

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon all parties in this proceeding.

Dated at Boston, Massachusetts this 22nd day of February 2005.



Neven Rabadjija, Esq.
Counsel for
BOSTON EDISON COMPANY d/b/a
NSTAR ELECTRIC

NSTAR Electric & Gas Corporation
800 Boylston Street, Pru-17
Boston, MA 02199-8003

Dated: February 22, 2005

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

Boston Edison Company d/b/a NSTAR Electric)
)

D.T.E. 04-71

DIRECT TESTIMONY OF
PETER A. VALBERG, Ph.D.
ON BEHALF OF
BOSTON EDISON COMPANY d/b/a NSTAR ELECTRIC

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

DIRECT TESTIMONY OF
DR. PETER A. VALBERG

1 **Q. Please state your name, position and business address.**

2 A. My name is Peter A. Valberg. I am Principal at Gradient Corporation with a business
3 address of 20 University Road, Cambridge, Massachusetts 02138.

4 **Q. On whose behalf are you testifying?**

5 A. I was retained by Boston Edison Company d/b/a NSTAR Electric (“NSTAR Electric” or
6 the “Company”) as an expert scientist in the areas of electric and magnetic fields
7 (“EMFs”) from power lines and public health. I am testifying on behalf of NSTAR
8 Electric.

9 **Q. Please summarize your professional and educational background.**

10 A. I received my A.B. degree *summa cum laude* in Physics and Mathematics from Taylor
11 University in 1964. In 1966, I was awarded an M.A. degree by Harvard University, and
12 in 1970 I was awarded the Ph.D. degree in Physics from Harvard University. I received
13 an additional M.S. degree in Human Physiology from the Harvard University School of
14 Public Health in 1975.

15 My background comprises physics, physiology, and public health expertise. I have
16 served on university faculties both in physics and in public health. I have studied the
17 health effects of EMFs for approximately fifteen years. As a result of my training,

1 research, and experience, I have expertise in the physical phenomena associated with
2 EMFs, the relevant biology, and the human epidemiology. My expertise includes the
3 physics and methodology behind measuring and predicting EMFs as they arise in the
4 generation, transmission, and distribution of electric power.

5 At the Harvard School of Public Health, I directed a research grant from the National
6 Cancer Institute; the topic was “Magnetic Field Effects on Macrophages.” I have served
7 on advisory panels for the National Institute of Health (“NIH”) and the Environmental
8 Protection Agency (“EPA”) in the area of power line health impacts. As Principal at
9 Gradient Corporation, my responsibilities include conducting reviews of human
10 toxicology for specific environmental agents, performing human health risk assessments,
11 and directing other staff in the performance of these tasks.

12 I was an invited participant for both an EPA workshop in Washington, D.C., and a
13 National Institute of Occupational Health Sciences (“NIOSH”) workshop in Cincinnati,
14 OH, in which health effects of power lines were analyzed. I have made presentations at
15 several Bioelectromagnetics Society Annual Conferences (1991, 1992, and 1997), as well
16 as at the EMF Contractors Conference (1993, 1994). I assisted the Health Effects
17 Institute in determining the feasibility of launching an EMF research program, and I have
18 published a summary document on “EMF Mechanisms” in the journal *Radiation*
19 *Research*. At the request of the International Congress on Radiation Research (“ICRR”),
20 I organized and chaired a symposium on “Physical aspects of EMF / RF effects on
21 biological systems,” at the 11th Annual ICRR meeting in Dublin, Ireland (1999).

Recently, I helped organize a conference in the Boston area on “*Childhood Leukemia: Electric and Magnetic Fields as Possible Risk Factors.*” A summary of this workshop is currently (2003) in press at the journal *Environmental Health Perspectives*.

A summary description of my EMF expertise is attached hereto as Attachment A.

Q. Please identify any regulatory proceedings in which you have testified.

A. The following table lists the regulatory proceedings in which I have offered testimony:

Proponent	Regulatory Board	Testimony Regarding:	Date
New Hampshire Electric Cooperative	New Hampshire Public Utilities Commission	Proposed Transmission Line, Docket DSF 85-155	March 10, 1994
Massachusetts Electric Company	Massachusetts Dept. of Public Utilities	Proposed Transmission Line, DPU Docket #95-57	June 28, 1995
New England Power Company	Massachusetts Energy Facilities Siting Board	Proposed Dorchester-Quincy Cable Project, EFSB 97-3	March 24, 1998
Appalachian Power Co., d/b/a American Electric Power	Public Service Commission of West Virginia	Wyoming-Cloverdale 765 kV Transmission Line, PSC Case #97-1329-E-CN	May 14, 1998
Sithe West Medway	Massachusetts Energy Facilities Siting Board	Proposed 540 MW Generation Facility, EFSB 98-10	March 24, 1999
Mystic River Station Redevelopment Project	Massachusetts Energy Facilities Siting Board	Proposed 1550 MW Generation Facility, EFSB 98-8	May 21 and 25, 1999
Sithe Fore River Station	Massachusetts Energy Facilities Siting Board	Proposed 775 MW Generation Facility, EFSB 98-7	August 10-13, 1999
IDC Bellingham, LLC	Massachusetts Energy Facilities Siting Board	Proposed 700 MW Generation Facility, EFSB 97-5	April / May, 1999
Brockton Power, LLC	Massachusetts Energy Facilities Siting Board	Proposed 270 MW Generation Facility, EFSB 99-1	July 6, 1999
Western Mass. Electric Company	Siting Division, MA Department of Telecommunications and Energy	Proposed Agawam Substation, D.T.E. 99-35	October 20, 1999

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Nickel Hill Energy, LLC	Massachusetts Energy Facilities Siting Board	Proposed 750 MW Generation Facility, EFSB 99-3	December 6, 1999
Southern Energy Kendall, LLC	Massachusetts Energy Facilities Siting Board	Proposed Upgrade and Replacement of Generation Facilities, EFSB 99-4	March 14, 2000
Cambridge (MA) Electric Light Company	Energy Facilities Siting Board, Department of Telecommunications and Energy	Proposed Underground 115 kV Transmission Line, EFSB 00-3 / D.T.E. 00-103	May 31, 2001
Clear Channel Radio	Newton (Massachusetts) Conservation Commission	Proposed AM Radio Upgrade, DEP 239-0448	January 23, 2003
Commonwealth Electric Company	Siting Division, MA Department of Telecommunications and Energy	Proposed Substation, Barnstable, MA, D.T.E. 03-7	April 14, 2003
Cape Wind Associates, L.L.C.	Energy Facilities Siting Board	Proposed Submarine / Underground 115 kV Line, EFSB 02-2 / D.T.E. 02-53	September 5, 2003
Vermont Electric Company	Public Service Board	Northeast Reliability Project, PSB Docket No. 6860	February 23-24, 2004
Boston Edison Company d/b/a NSTAR Electric	Energy Facilities Siting Board, Massachusetts	Stoughton to Boston 345-kV EFSB 04-1, DTE 04-5, 04-7	July 13, 2004

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3 **Q. What is your involvement and responsibility with respect to NSTAR Electric's**
4 **proposed line relocation project in Framingham, Natick and Sherborn**
5 **Massachusetts?**

6 A. I was asked to provide background information on the nature of EMFs, and if necessary,
7 be prepared to offer an independent expert opinion on the current status of scientific
8 research into the health effects of EMFs.

9 **Q. For what portions of NSTAR Electric's filing are you responsible?**

10 A. Along with other witnesses, I am responsible for Sections 4.6.1 and 4.6.2 of Appendix A

1 to the Company's Petition, which was submitted in this proceeding on July 19, 2004.

2 **Q. Were the materials referenced above prepared by you or under your supervision**
3 **and control?**

4 A. Yes, they were.

5 **Q. Are there any revisions, updates or corrections to those matters for which you are**
6 **responsible?**

7 A. Not at this time.

8 **Q. Does this complete your testimony?**

9 A. Yes, it does.

D.T.E. 04-71
Boston Edison Company
d/b/a NSTAR Electric

Attachment A

To Exhibit NSTAR-PAV-1
Direct Testimony of Peter Valberg, Ph.D.



Dr. Peter A. Valberg, *Gradient Corporation*

Summary Description of Dr. Valberg's EMF Expertise

Dr. Peter Valberg is Principal at Gradient Corporation, and he was for 25 years a faculty member in the Department of Environmental Health at the Harvard School of Public Health (HSPH). During his full-time tenure at HSPH, Dr. Valberg researched and taught in the areas of toxicology, cell biology, environmental health, and public health. His teaching included Human Physiology, Inhalation Toxicology, Risk Assessment, and Electric and Magnetic Fields / Radio Frequency (EMF / RF) Case Studies. One of Dr. Valberg's several research programs at HSPH was "Magnetic Field Effects on Macrophages," which was supported by the National Cancer Institute.

Dr. Valberg has served on EMF review/advisory panels for the National Institutes of Health (NIH), the Health Effects Institute, and the Environmental Protection Agency. At the Harvard Center for Risk Analysis, Dr. Valberg was a member of the "Harvard Advisory Committee on EMF and Human Health" as well as the "Peer Review Board on Cellular Technology and Human Health." He is a member of the International Society for Environmental Epidemiology, the Health Physics Society, the Bioelectromagnetics Society, and the American National Standards Institute (ANSI) Committee on Man and Radiation (COMAR). Dr. Valberg also serves on the Board of Directors of the Bioelectromagnetics Society.

Dr. Valberg's background includes physics, physiology, and public health expertise. He holds graduate degrees both in physics and human physiology, and he has served on university faculties in both physics and public health. Dr. Valberg is the author of over 80 peer-reviewed articles on environmental health and cell biology, and he advises researchers in the physical phenomena associated with EMF/RF, the relevant biology, and the human epidemiology. Dr. Valberg has directed health risk assessments for municipal health departments, utilities, regulatory agencies, government, and industry on evaluation of potential health effects from exposure to EMF and RF.

Dr. Valberg has been working in the area of EMF health effects for over 14 years. He made presentations at several Bioelectromagnetics Society Annual Conferences (1991, 1992, and 1997), as well as at the EMF Contractors Conference (1993, 1994). Dr. Valberg assisted the Health Effects Institute (Boston, MA) in determining the feasibility of launching an EMF research program, and he published a summary document on "EMF Mechanisms" in the journal *Radiation Research*. At the request of the International Congress on Radiation Research (ICRR), Dr. Valberg organized and chaired a symposium on "*Physical aspects of EMF / RF effects on biological systems*," at the 11th Annual ICRR meeting in Dublin, Ireland (1999). Dr. Valberg helped organize a conference in the Boston area on "*Childhood Leukemia: Electric and Magnetic Fields as Possible Risk Factors*." A summary of this workshop was published (2003) in the journal *Environmental Health Perspectives*.

Dr. Valberg has a Ph.D. degree in Physics from Harvard University, an M.S. degree in Human Physiology from the Harvard School of Public Health, and an A.B. degree *summa cum laude* in Physics and Mathematics from Taylor University (Indiana).

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